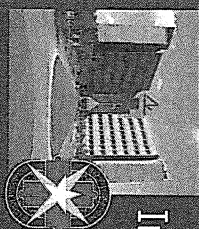
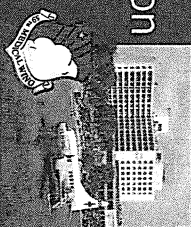


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# Improvement in Knowledge and Confidence after the Introduction of a New Curriculum for Rotating Residents in the Medical ICU

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## PURPOSE

To develop a sustainable curriculum for residents rotating through the medical intensive care unit that addresses critical care topics

## BACKGROUND

- Gaps exist in internal medicine residents' critical care knowledge and skills
- Learning environment on critical care rotation
- No specific or standardized didactics
- Relied on bedside teaching from staff fellows
- Variable resident experience

- Conducted needs assessment from rotating residents
- Dissatisfied with residents in a CGME survey
- Request for additional simulation experience
- Challenges to a standardized ICU curriculum:
  - Work hours, handoffs, time constraints, low patient census, protected educational time, lecturers
  - Variable resident schedule

- Goals for standardized ICU curriculum
- Practical topics for critical care
- Flipped classroom model<sup>1,2</sup>
- High-fidelity simulation session

## METHODS

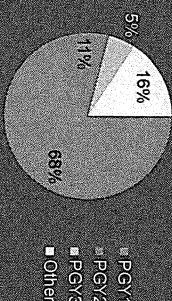
- Development of new curriculum
- Based on four-week rotation
- Mandatory orientation once weekly for new residents that includes pre-survey and pretest
- Three one-hour mandatory lectures per week, six mandatory interprofessional simulation exercises

## DISCLAIMERS

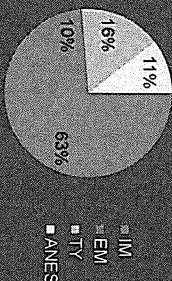
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## RESULTS

### Year of Training



### Specialty



Prior critical care experience (n=19)	Median (Range)
Number of prior weeks on critical care service in residency	0 weeks (0-10)
Central lines placed	1 line (0-15)
Arterial lines placed	0 lines (1-15)
Code leader	0 lead roles (0-2)
Intubations performed	3 intubations (0-50)
Mechanically Ventilated Patients	5 MV patients (0-20)

Simulation Survey Topic (n=10)	Strongly Agree
Medical knowledge in care of patients	80%
Optimized learning objectives	90%
Valued as a team member	80%
Addressed team communication	90%
Increased level of roles & responsibilities	80%
Debriefing enhanced my knowledge	90%



## RESULTS & DISCUSSION

- Resident demographics
- Primarily interns with little critical care experience
- 63% of the residents are internal medicine

### Postrotation surveys

- Improved confidence in all topics
- Statistically significant improvement in majority
- Critical care ultrasound (12.1 ± 3.6, +7.1%, p < 0.001)
- Shock (12.2 ± 3.3, +5.0%, p < 0.001)
- Code blue (12.1 ± 2.9, +3.8%, p = 0.03)
- ICU Sedation (12.4 ± 3.3, +3.8%, p = 0.005)
- Benefits of lecture style and hands-on training
- Majority of learners strongly agree about the value of the simulation sessions

### Knowledge assessment results

- Pre-test average score = 48% (12 of 25 questions), n=25
- Post-test average score = 58% (14 of 25 questions), n=7
- Further data collection needed for additional analysis

## CONCLUSION

The implementation of a standardized curriculum for residents rotating through the ICU demonstrates improvements in confidence level and knowledge base of critical care medicine

## FUTURE DIRECTION

- Expansion of simulation sessions to include assessment portion that is linked to a CGME milestone
- Further refinement of lecture content and skills sessions based on resident feedback and deployment readiness
- Expansion of critical care curriculum and curriculum

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